



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,306	12/04/2003	Owais Jamil	TESSERA 3.0-241 DIV	9622
38091	7590	08/19/2004		
LERNER DAVID, LITENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090				
			EXAMINER NGUYEN, DONGHAI D	
			ART UNIT 3729	PAPER NUMBER

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/728,306	Applicant(s) JAMIL, OWAIS CA	
	Examiner Donghai D. Nguyen	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 8-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species A (Claims 1-7) in the reply filed on June 07, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

2. This application filed under former 37 CFR 1.60 lacks the necessary reference to the prior application. A statement reading, "This is a divisional of Application No. 09/916,554, filed 07/27/2001, now US Patent No. 6,678,952 B2." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of all nonprovisional parent applications referenced should be included.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --METHOD OF MAKING A
MICROELECTRONIC PACKAGE--.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase “the bottom conductive features” (claim 1, lines 10-11) lacks of antecedent basis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(a) as being anticipated by US Patent 6,200,134 B1 to Haba et al.

Regarding claim 1, Haba et al disclose a method of making a microelectronic package, comprising: providing a dielectric layer (104); forming a top conductive feature (128) on the top side of the dielectric layer and forming a bottom conductive feature (124) on the bottom side of the dielectric layer; juxtaposing (Col. 12, lines 44-46) the dielectric layer with at least one microelectronic element (112) having contacts (116) and bonding the contacts of the microelectronic element with the bottom conductive feature; forming a via (136) through the dielectric layer either before or after said bonding step, the via being aligned with the top conductive feature and the bottom conductive feature (Fig. 4); and electrically interconnecting (142) the top conductive feature and the bottom conductive feature (Figs. 5 and 6).

Regarding claim 2, Haba et al disclose the step of depositing electrically conductive material (142) in the vias without seeding the vias (Col. 11, lines 8-10).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haba et al in view of US Patent 6,222,136 B1 to Appelt et al.

Regarding claim 3, Haba et al disclose a method of forming a microelectronic package, comprising: providing a dielectric layer (104) with a top side, a bottom side, a top metal layer (128) on the top side, and a bottom metal layer (130) on the bottom side; forming first apertures (132) in the top metal layer and forming vias (136) in the dielectric layer aligned with the first apertures; juxtaposing the dielectric layer with a microelectronic element (112) so that the bottom conductive features are aligned with contacts of the microelectronic element (Fig. 10); and electrically interconnecting the top conductive features and the bottom conductive features through the vias by depositing electrically conductive material (142) in the vias (136) without seeding the vias (Col. 11, lines 8-10), except to apply resist to the surface of the top and bottom metal layer; pattern resist to form openings that uncovered portion of metal layers; and forming conductor features on top and bottom metal layers.

Appelt et al teach the steps of applying a first resist to the top metal layer (22/24), applying a second resist (22/48) to the bottom metal layer and patterning the first resist and second resist in the same step to form first openings in the first resist and second openings in the second resist (Fig. 2c); the first openings leaving uncovered portions of the top metal layer surrounding the vias, and the second openings being aligned with the first openings (Fig. 2d); and forming top conductive features (34, 36) from portions of the top metal layer aligned with said first openings and bottom conductive features on portions of the bottom metal layer aligned with said second openings (Fig. 2j) for increasing the rigidity of the structure (Col. 3, lines 38-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Haba et al to have the steps of applying a first and a second resist to the top and to the bottom metal layer and patterning the first resist and second resist in the same step to form first openings in the first resist and second openings in the second resist; the first openings leaving uncovered portions of the top metal layer surrounding the vias, and the second openings being aligned with the first openings; and forming top conductive features from portions of the top metal layer aligned with said first openings and bottom conductive features on portions of the bottom metal layer aligned with said second openings as taught by Appelt et al for increasing the rigidity of the structure.

Regarding claims 4 and 5, Haba et al disclose bonding the bottom conductive features (110) to the contacts (116) of the microelectronic element, wherein the bottom conductive features include pads at an end of the bottom conductive features and the

Art Unit: 3729

method includes bonding the pads to the contacts of the microelectronic element (Col. 12, lines 11-15).

Allowable Subject Matter

10. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (703) 305-7859. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN

A handwritten signature in black ink, appearing to read 'PETER VO', with a long horizontal line extending to the right.

**PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700**